

## Patent Claims

### Honeycomb-Shaped Carbon Element

- 5           1. Use of a prefabricated base body that is made from resin-impregnated paper or  
            fleece and has a honeycomb structure for the production of a carbon element  
            having a honeycomb-shaped structure, wherein the base body is first pyrolyzed  
            and then at least stabilized and/or compressed.
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            characterized in that a honeycomb element made from resin-impregnated  
            Aramid paper is used as the base body.
3. Method pursuant to claim 1, characterized in that the pyrolyzed base body  
            is stabilized and/or compressed by means of material precipitation from the  
            gaseous phase.
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            is stabilized and/or compressed in particular by means of CVI and/or CVD  
            precipitation with C, SiC, B<sub>4</sub>C and/or Si.
5. Method pursuant to claim 1, characterized in that an SiC or PyC layer is  
            formed on the pyrolyzed base body.
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            compressed or stabilized base body is coated with carbon-containing solutions  
            such as resins and then again pyrolyzed.
7. Method pursuant to claim 1, characterized in that the pyrolyzed and  
            compressed or stabilized base body is coated with a ceramic slip, which is  
25             converted into ceramics such as SiC.
8. Method pursuant to claim 1, characterized in that the base body having the  
            honeycomb structure is carbonized at a temperature  $T_1$  wherein  $850^{\circ}\text{C} \leq T_1 \leq 1100^{\circ}\text{C}$ ,  
            especially  $900^{\circ}\text{C} \leq T_1 \leq 1000^{\circ}\text{C}$ .
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            graphitized at a temperature  $T_2$  wherein  $1700^{\circ}\text{C} \leq T_2 \leq 3100^{\circ}\text{C}$ , especially  
             $1800^{\circ}\text{C} \leq T_2 \leq 2450^{\circ}\text{C}$ .

10. Method pursuant to claim 1, characterized in that as the base body a body is used that comprises high temperature stable fibers such as carbon fibers or SiC fibers or pyrolyzable fibers with sufficient carbon residue such as phenolic resin fibers, Aramid fibers, flax, hemp or other cellulose fibers as the reinforcing material.

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11. Method pursuant at least to one of the above claims, characterized in that the pyrolyzed and stabilized or compressed base body is subsequently subjected to further strengthening or finishing operations.

12. Method pursuant at least to one of the above claims, characterized in that the pyrolyzed and stabilized or compressed base body is siliconized.

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